

Claims:

1. Conveying device for a production or machining line with at least one, in particular cutting, machining station, the conveying device serving for the conveying of workpieces with conveying aids (5), like pallets and workpiece carriers, a primary part (2) of a linear motor being provided along the conveying path which creates a magnetic field and the conveying aid (5) being formed by the secondary part of the linear motor.
2. Conveying device according to claim 1, **characterised in that** the conveying device serves for a conveying of the workpieces (6) between the different machining stations as well as for a positioning of the workpiece (6) in the machining station.
3. Conveying device according to claim 1, **characterised in that** the conveying device serves also for a movement of the workpiece (6) in the machining station during the machining.
4. Conveying device according to claim 1, **characterised in that** the primary part (2) creating the magnetic field is arranged on both sides of the conveying line (1).
5. Conveying device according to claim 1, **characterised in that** short circuit windings are fitted in the secondary part.
6. Conveying device according to claim 1, **characterised in that** a surface of the secondary part has profilings which in the co-operation with the magnetic field(s) of the primary part (2) provide the conveying force for the movement of the conveying aid (5).

7. Conveying device according to claim 1, **characterised in that** the secondary part has at least one permanent magnetic part which can be engaged and disengaged.
8. Conveying device according to claim 1, **characterised in that** the conveying device can be subdivided into different sectors along the conveying path of the conveying line (1).
9. Conveying device according to claim 1, **characterised in that** the conveying device can be subdivided into different sectors along the conveying path of the conveying line (1) and at least one coil (2/1) forming a magnetic field is assigned to each sector.
10. Conveying device according to claim 1, **characterised in that** the conveying device can be subdivided into different sectors along the conveying path of the conveying line (1) and at least one coil (2/1) which forms a magnetic field is assigned to each sector and the magnetic fields can be separately switched on, respectively off.
11. Conveying device according to claim 1, **characterised in that** the conveying device can be subdivided into different sectors along the conveying path of the conveying line (1) and at least one coil (2/1) forming a magnetic field is assigned to each sector and the magnetic fields can be switched on, respectively off, together.
12. Conveying device according to claim 1, **characterised in that** the conveying device can be subdivided into different sectors along the conveying path of the

conveying line (1) and at least one coil (2/1) forming a magnetic field is assigned to each sector and the magnetic fields are formed by several windings which can be switched on and off.

13. Conveying device according to claim 1, **characterised in that** the conveying device can be subdivided into different sectors along the conveying path of the conveying line (1) and at least one coil (2/1) forming a magnetic field is assigned to each sector and different windings provide different magnetic field intensities.

14. Conveying device according to claim 1, **characterised in that** the secondary parts are formed by sledges on which the conveying aids (5) are arranged by means of mechanic catches, drivers and the like in such a way that they can be engaged and disengaged.

15. Conveying device according to claim 1, **characterised in that** between the stationary primary part (2) and the movable secondary part an air gap (3) is formed which is set by rollers (7) or slide guides.

16. Conveying device according to claim 1, **characterised in that** between the stationary primary part (2) and the movable secondary part an air gap (3) is formed which is set by rollers (7) or slide guides and the rollers (7) are designed in a profiled way in order to take over the lateral guide of the conveying aids (5).

17. Conveying device according to claim 1, **characterised in that** a position control is provided, comprising at least one position answering device which is arranged on the conveying aid (5) and with sensors arranged on the

primary part(s) and an adjustment device, respectively control device.

18. Conveying device according to claim 1, **characterised in that** the definition of the position of the conveying aids (5) is carried out by means of optical distance measuring, ultrasound or inductive way measuring, Hall sensors, respectively a way measuring system which is integrated in the primary part (2).

19. Conveying device according to claim 1, **characterised in that** the position of the conveying aids (5) can be registered relatively to the poles of the magnets of the primary part (2).

20. Conveying device according to claim 1, **characterised in that** the definition of the position of the conveying aids (5) is carried out relatively to the conveying line (1) of the conveying device.

21. Conveying device according to claim 1, **characterised in that** at least one scanning element is provided which is arranged on the conveying aid (5).

22. Conveying device according to claim 1, **characterised in that** at least one scanning element is provided which is arranged on the conveying aid (5) and the supply of energy of the scanning element is secured by a battery, respectively an accumulator, which is arranged on the conveying aid (5).

23. Conveying element according to claim 1, **characterised in that** at least one scanning element is provided which is arranged on the conveying aid (5) and the energy supply of the scanning element is secured by a battery,

respectively an accumulator, which is arranged on the conveying aid (5) and the charging of the accumulator for the scanning element is carried out preferably in a waiting position contact-less inductively, respectively capacitively.

24. Conveying device according to claim 1, **characterised in that** jam paths where the conveying aids (5) can be lined up are provided in the conveying device.

25. Conveying device according to claim 1, **characterised in that** a stopper (13) is provided which is designed to be swivelled into the conveying line (1), respectively to press the conveying means (5) from the side to the primary part (2).

26. Conveying device according to claim 1, **characterised in that** in the conveying device jam paths are provided where the conveying aids (5) can be lined up and the jam path is formed by sectors or magnetic fields of the primary part (2) which can be switched on and off, which are, because of information, respectively control instructions, of the position control switched on, respectively off.

27. Conveying device according to claim 1, **characterised in that** the conveying aids (5) are designed in such a way that the jamming force in the direction of transfer (A) of following conveying aids (5) leads in the conveying aid (5) itself to the enlargement of the air gap (3) between the linear and secondary part.

28. Conveying device according to claim 1, **characterised in that** the secondary part consists of a chassis (8) carried

by rollers (7) which is connected flexibly via levers (9) with the workpiece carrier, respectively the pallet.

29. Conveying device according to claim 1, **characterised in that** wedge surfaces are provided between a chassis (8) and workpiece carrier which are designed mounting in the direction of the transfer direction (A).

30. Conveying device according to claim 1, **characterised in that** the workpiece carrier in transfer direction (A) on the back end (1) a running element (12) is provided.

31. Conveying device according to claim 1, **characterised in that** the machining station (1) is designed as cutting, modifying, assembling or separating machine or the machining station (1) is designed as test station, assembling station, adjusting station, surface coating station, wrapping or unpacking station, marking station or cleaning station.

32. Production or machining line with a conveying device according to claim 1 which connects at least two machining stations.

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